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*To the Royal College of Surgeons
from the Author*

ON

THE PREMONITORY SYMPTOMS

OF

CHOLERA.

IN A

LETTER

TO THE

EDITOR OF THE "ASSOCIATION MEDICAL JOURNAL".

BY

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PREMONITORY SYMPTOMS OF CHOLERA.

SIR,—As cases of cholera are manifesting themselves in various parts of the country and here in London, will you permit me through the medium of your valuable Journal to call attention to some of the pathological points of the disease which have not as yet fixed the attention of the profession?

In the result of an inquiry into the invariable existence of a premonitory diarrhœa in cholera, the attention of the profession was first called (page 26) to the fact that where cholera prevails epidemically, then every individual in that locality has the functions of his stomach and those of his bowels deranged; everyone is more subject to flatulence than usual, especially between one and five in the morning, when they have borborygmi, sometimes so loud as to be heard at a considerable distance. The least irregularity in food or drink produces a tendency to liquid evacuations. Those persons in the locality who are of a costive habit, having a passage only every second, third, or fourth day, of hard fœcal matter, have now a passage from their bowels every day of soft fœcal matter. Those who are in the habit of having one evacuation from their bowels daily of consistent fœcal matter, have now two or three daily of soft fœcal matter. Those who are in the habit of taking aperients find that now one-half, one-third, or one-fourth of the usual dose will act as fully as a full dose did formerly; and that a full dose will now induce diarrhœa, followed by cholera and by death.

These observations have been confirmed by the testimony of other pathologists; and especially by Dr. Williams of Swansea, who has given this stage the appropriate name of the premonitory to the premonitory diarrhœa.

It cannot, therefore, be doubted that, where cholera prevails epidemically, then the functions of the stomach and those of the bowels of all the individuals in the locality are more or less deranged; and that diarrhœa is also epidemic. From the amount of medicine distributed to diarrhœal cases amongst the less fortunate class of the population of the Stepney Union last year (1854), Mr. Grey, assistant-secretary to the union, calculated that above 15,000 persons received medicines from the union dispensaries. If we compare the number of deaths in this class, with the number of deaths amongst the more fortunate classes in the union, which contains of all classes a population of 110,000 inhabitants, we arrive at the conclusion that during the outbreak of cholera last year, 45,000 persons were under medical treat-

ment in Stepney, in consequence of labouring under diarrhœa. And if we keep in mind that it is only the serious cases of diarrhœa that seek for medical treatment, we cannot be far wrong in saying that the whole of the population had the functions of their stomach and bowels disturbed during the prevalence of epidemic cholera.

The existence of the pathological fact that, diarrhœa for a few hours, or for a few days, or for a few weeks, invariably precedes an attack of cholera, has been also fully established by the testimony of the medical staff of St. Thomas's, of St. Bartholomew's, of the Westminster, of the Homœopathic, of St. Mary's, of the University College, of the Middlesex Hospitals, and by the careful researches of the thirty-six medical gentlemen employed by the Poplar Union.

But, although every case of cholera is preceded by a diarrhœa, yet happily every case of diarrhœa is not followed by an attack of cholera. Consequently it becomes a question of the greatest practical importance to ascertain what diarrhœa will, and what diarrhœa will not, run into cholera.

Heretofore, when the diarrhœal fluid assumed the appearance of what is called "rice-water evacuations", it was supposed that then the attack of spasms, vomiting, etc.,—that an attack of cholera, in fact—was imminent; and as long as the evacuations had not assumed the "rice-water appearance" the patient was supposed to be safe from an attack of cholera. More careful observations, however, have shewn that the evacuations may continue like "rice-water" for days, and yet not be followed by spasms, vomiting, etc.; and the same careful observations have also shewn that an individual may be attacked by spasms, vomiting, etc., while the evacuations are still tinged by fœcal matter. Consequently we cannot depend on the appearance of the diarrhœal fluid to enable us to give an opinion, whether the individual labouring under diarrhœa is or is not in danger of being immediately attacked by cholera.

After attentive observations at the bedside, it has been concluded that the manner in which the diarrhœal fluid is passed off from the bowels does give the best means to decide whether an attack of cholera is imminent or not; and it has also been concluded, that the bowels discharge the diarrhœal fluid in three different manners—marking distinctly whether the patient will be attacked with cholera in a few hours, or in a few days, or in a few weeks.

The following elementary indications for the purpose of pointing out these different diarrhœas are here submitted to the profession, in the hope that the attention of more careful and more painstaking pathologists may be called to the subject, and that they may correct any errors here laid down; and that they may

by their own researches advance our knowledge on this most important practical question.

The first manner in which diarrhæal fluid is passed off from the bowels. The person has or has not remarked that his appetite is impaired; that his mouth is clammy in the morning; that his breath is tainted; that he has more flatus than usual; that he has borborygmi, especially between one and five in the morning; that his stomach and bowels are distended; that his abdomen is tense, possibly hard, and tender on pressure; that he has a weight and pressure on the sphincter of the anus, and a desire more than ordinary to pass flatus; but that he has also the feeling, that if he did allow the flatus to pass, that he would soil his clothes. He has, possibly at his usual time for having a passage in his bowels, or at some other time in the day or night, a sudden and pressing desire to relieve his bowels. On sitting on the water-closet he passes, with slight or no pain, a great quantity of flatus, followed by liquid fæcal matter, which runs from him as if poured out of a jug, without requiring any effort on his part for its expulsion. He has the desire to remain on the water-closet a quarter or half an hour, or more, still occasionally passing flatus and liquid fæcal matter, still with slight or no pain, and without any effort on his part, the great desire to relieve his bowels at last passes away, to return in a quarter, in half an hour, or in an hour, when he again passes, as in the first instance, with little or no pain, flatus and a large quantity of liquid fæcal matter still running from him as if poured out of a jug.

He may or he may not now feel cold and chilly; he may feel as if something abnormal ailed him; or he may have three or four such evacuations without feeling anything unpleasant or remarking any change in himself; though to a bystander a change in his appearance is evident; his face is more pallid than it was some hours before; his features appear shrunken; the eyelids may appear darker than usual; his pulse is weaker; and so is also his voice. In two, three, or four hours, or more, from the first liquid evacuation, at a moment he least expects, he feels sick at stomach, and the contents of his stomach are propelled possibly to a great distance from him; this is followed immediately by a passage from his bowels which he possibly cannot retain. He has now at times very slight spasms in the arms and fingers, or in the legs and toes; at other times, most violent spasms in his extremities, which may extend to the muscles of the loins, producing opisthotonos; or to the muscles of the abdomen, producing emprosthotonos.

Second manner in which diarrhæal fluid is passed off from the bowels. The person having or not having remarked that he has, if not all, the great majority of the symptoms which mark

the approach of the premonitory diarrhœa, in the first manner in which diarrhœal fluid is passed off from the bowels, goes to the water-closet at his usual time possibly, or is suddenly called thero at an unusual time in the day or night. He then discharges—not in a large quantity—both flatus and liquid fœcal matter with one gush, as if propelled out of the intestine by a piston. But although he has the desire to pass more, and the feeling that if he did he would relieve himself of something that wanted to come away, yet he cannot pass more, however much he might by straining endeavour to do so. At last, he leaves the water-closet, having, as was said before, passed only one gush of liquid fœcal matter and flatus; but he goes away with the feeling of weight on the sphincter of the anus, and the feeling that if he were to allow any flatus to pass he would soil his clothes. This kind of diarrhœa may go on for twelve or more hours, or for four or five days. It may have drained almost the whole serum from his blood. His blood may have ceased to circulate, and his heart may have ceased to beat; his skin may be blue, icy cold, and clammy; his tongue may be icy cold and shrunken; his voice weak or possibly only a whisper; his features may be shrunken; and yet he may say that he has nothing the matter with him, that he is as strong as ever; and if a labouring man, that he can do his work as usual. This man, however, is already past all human aid, before the vomiting and spasms have come on, before he has one single symptom of what heretofore was called cholera, and consequently before he or his friends are aware that he is in danger.

Third manner in which diarrhœal fluid is passed off from the bowels. Again, the person has or has not remarked that he has the symptoms which characterise the premonition to the premonitory diarrhœa; but on going to the water-closet, at his usual hour, or at an unusual hour, of the day or night, he passes with or without pain, by repeated squirts, flukes and liquid fœcal matter, propelled as if by a piston, with force and to some considerable distance, out of the intestine. He has the desire to sit on the water-closet; and he there strains to pass more flatus and more liquid fœcal matter, which he does repeatedly, and possibly goes on straining as those do who are labouring under dysentery, till blood is possibly forced away from the hæmorrhoidal veins.

In this kind of a diarrhœa, the person may go on having three or more passages during the twenty-four hours for one or more weeks, and then be cured by the efforts of nature; or this diarrhœa may go on for six weeks and more, and as in the second manner in which diarrhœal fluid is passed off from the bowels, it may have drained away almost the whole serum from the blood, the blood may have ceased to circulate, and the

heart may have ceased to beat, etc., before the vomiting and spasms come on.

A person attacked by a diarrhœa, such as is described in the first manner in which diarrhœal fluid is passed off from the bowels, is almost certain to be attacked by vomiting and spasms in two, three, or four hours, and his life will be in the greatest danger.

Those gentlemen who have not had an opportunity of seeing such a case, may have a correct description of all symptoms from an intelligent watchmaker, No. 6, Arthur Street, St. Giles' Union, who was the subject of such a case, and who gives a graphic description of what he felt and what befell him; or from Mr. Bennet, the surgeon to the St. Giles' Union, who attended this person, and who happily was in time with prompt and judicious treatment to save his patient from an untimely grave; barely two hours had elapsed from the first liquid motion to the first symptoms of vomiting and spasms and of collapse.

The case of the female, reported in the Registrar General's weekly return of 12th August 1854, of having died on the 6th August, 1854, at No. 53, Lucas Street, St. Paul, St. George in the East, was a good example of the second manner in which diarrhœal fluid is discharged from the bowels. Her daughter, who attended her during her illness—that is, from the first liquid motion till the moment of her death—describes perfectly the manner in which her mother discharged the diarrhœal fluid; and she, too, will give any information required on this subject.

The case of Mr. Savory, the eminent chemist in Bond Street, is an example of the third manner in which diarrhœal fluid is passed off from the bowels. Mr. Savory gives a correct description of his case, and he has been so kind as to permit me to say that he will be, at any time, happy to give details of his case to any professional gentleman who might wish to make any further inquiry. Mr. Savory had the diarrhœa on him for above a fortnight before I accidentally saw him; his countenance, his voice, etc., were such that I am satisfied he was not far from the stage of vomiting, spasms, etc.

There are two other pathological points connected with the premonitory diarrhœa, and connected with the stage of vomiting and spasms, to which I wish to call attention.

First. At what hour in the day or night does the attack of diarrhœa usually come on?

Second. At what hour in the day or night does the attack of vomiting and spasms come on?

The results of my observations are that in the majority of cases diarrhœa comes on during the night from one to five in

the morning; or, during the day, at about 2 P.M. or at 8 P.M. The stage of vomiting and spasms follow the same law. So much am I satisfied of these facts, that I have ventured to submit them to the consideration of the minister for war in this country, and to the minister for war in France, in the hope that they will be acted on in the army before Sebastopol, and that a medical inspection be made of the whole army three times a day, in the way horses to horse visits are carried on in this country; the first visit at 5 A.M., the second about 2 P.M., and the third at about 8 P.M.; and that medical attendants be at hand to visit any one attacked with diarrhoea from 1 to 5 A.M.; or, indeed, to visit any one immediately during the twenty-four hours who is seized with diarrhoea. I have reasons to believe that the minister for war in this country has called the attention of the commander-in-chief of our army before Sebastopol to the above suggestions.

I need not say how grateful I shall be to those gentlemen who by well authenticated facts will confirm or refute the above conclusions; their labours will benefit medical science.

In conclusion, I need not here repeat what I have again and again said in other places, that it is during the premonitory diarrhoeal stage, before the blood has ceased to circulate, before the heart has ceased to beat, and before the first vomiting and spasms have come on, that proper medical treatment can—almost with certainty—arrest the progress of the diarrhoea, and thereby save the patient's life. For we must not lose sight of this most important pathological fact, that it has been reserved to cholera to show us that we can walk about for pleasure or business, or attend to any laborious occupations we may have at home, after our blood has been drained by a painless diarrhoea of almost the whole of its serum, and after our blood has ceased to circulate, and after our heart has ceased to beat;* and that we may be past all human aid before we are made sensible by pain that we are ill.

In submitting the above pathological questions to the consideration of the profession, I am fully sensible they require to be again studied, revised, and the conclusions arrived at corrected; and I can only say that I shall be the first to be thankful to more careful and to more minute pathologists who will devote their attention to the above important practical points of the pathology of cholera during the coming outbreak with which we are threatened, and who will give us the benefit of their researches. Our profession ought to be able, not only to cure cholera, but it ought to be able to prognosticate the advent of the disease.

I am, etc.,

D. MACLOUGHLIN.